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| 10/591,079 | 08/30/2006 | Hirokazu Miyazawa | Q80549 | 5967 | |
| 23373 | 7590 | 12/08/2009 | | | |
| SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037 | | | | EXAMINER | |
| ART UNIT | | KATCOFF, MATTHEW GORDON | | PAPER NUMBER | |
| 3725 | | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| | | |
|------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/591,079 | Applicant(s) MIYAZAWA ET AL. |
| | Examiner Matthew G. Katcoff | Art Unit 3725 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 11 September 2009.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 2-8 and 15-17 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 2-8 and 15-17 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/GS-68)
 Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____
 5) Notice of Informal Patent Application
 6) Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment filed 11 September 2009 has been entered but is insufficient to overcome the prior art rejections. No argument has been made with respect to the restriction requirement; thus the election is without traverse and the requirement is maintained. The prior art rejections of claims 2-8 are maintained. The prior rejections of claims 2-8 are recited below as are the rejections of new claims 15-17. Claims 1 and 9-14 have been canceled and claims 15-17 have been added. Claims 2-8 and 15-17 are currently pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2-4, 6 and 8 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,888,258 to Kaaber (*Kaaber*) in view of U.S. Patent No. 6,139,990 to Kubota et. al. (*Kubota*).

Concerning claim 2, *Kaaber* discloses using a jet mill to reduce the size of alumni particles to a size of no more than 100 μ m (see example 2). However it does not disclose using the jet mill to round the particles.

Kubota, a method of modifying graphite particles, discloses using a jet mill to collide particles (column 5, lines 14-16) to reduce particle size to 1 to 100 μm (column 5, lines 10-11) and round the particles to a roundness of not less than 0.86 (column 4, lines 4-5).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the reducing and rounding steps disclosed by *Kubota* with the steps of milling alumina disclosed by *Kaaber* because this just using known techniques to improve a product in the same manner. Further, both methods involve using a jet mill thus this is a simple addition of known steps using the same apparatus.

Concerning claim 3, the steps claimed are encompassed by claim 2 since *Kubota* causes the collisions with a jet mill; thus claim 3 is rejected for at least the same reasons as claim 2 is rejected.

Concerning claim 4, the steps claimed are encompassed by claim 3 since the jet mill disclosed by *Kubota* reduces particle size and rounds the particles by colliding the particles (column 5, lines 14-16), thus it is a counter-flow jet mill; thus claim 4 is rejected for at least the same reasons as claim 3 is rejected.

Concerning claim 6, the steps claimed are encompassed by claim 4 since it is inherent in a jet mill that one can arbitrarily control the nozzle pressure, rotation speed of the classifier and the operation time; thus claim 6 is rejected for at least the same reasons as claim 4 is rejected.

Concerning claim 8, the steps claimed are encompassed by claim 4 since *Kubota* discloses using the jet mill in a batch operation (column 5, lines 62-63); thus claim 8 is rejected for at least the same reasons as claim 4 is rejected.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Kaaber* in view of *Kubota* as applied to claim 3 above, and further in view of U.S. Patent No. 3,837,583 to *Kugelberg* et. al. (*Kugelberg*).

Concerning claim 5, the steps disclosed by *Kaaber* and *Kubota* does not disclose the jet mill being a rotational flow type.

Kugelberg, a multi-stage jet mill, discloses using rotational flow to mill particles in a jet mill (column 1, lines 18-21).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the rotational flow jet mill with the steps disclosed by *Kaaber* and *Kubota* because this is a simple substitution of one type of jet mill for another which operates in the same manner.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Kaaber* in view of *Kubota* as applied to claim 4 above, and further in view of U.S. Patent No. 5,421,524 to *Haddow* (*Haddow*).

Concerning claim 7, the method disclosed by *Kaaber* in view of *Kubota* does not disclose the nozzle pressure of the jet mill.

Haddow, a method milling, discloses using a jet mill with a nozzle pressure of 0.5 to 1MPa (column 3, lines 29-31).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the nozzle pressure disclosed by *Haddow* with the steps disclosed by *Kaaber* and *Kubota* because using this pressure is common in the art and the result is predictably the same.

6. Claims 15-17 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Kaaber* in view of *Kubota* as applied to claim 2 above, and further in view of WO 02/098795 to Kanbara et al (*Kanbara*).

Concerning claims 15 and 17, the method disclosed by *Kaaber* in view of *Kubota* does not disclose incorporating the fused alumina to a resin.

Kanbara discloses incorporating fused alumina particles into a resin () .

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the method disclosed by *Kaaber* in view of *Kubota* with the incorporation into resin as disclosed by *Kanbara* because incorporating fused alumina particles into a resin is well known in the art and thus this is a simple combination of a well known methods with predictable results.

Concerning claim 16, the method disclosed by *Kaaber* in view of *Kubota* does not disclose incorporating the fused alumina to a rubber.

Kanbara discloses incorporating fused alumina particles into a rubber (page 1, lines 17-18 and page 11, line 21).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the method disclosed by *Kaaber* in view of

Kubota with the incorporation into rubber as disclosed by *Kanbara* because incorporating fused alumina particles into a rubber is well known in the art and thus this is a simple combination of a well known methods with predictable results.

Response to Arguments

7. Applicant's arguments filed 11 September 2009 have been fully considered but they are not persuasive.
 - a. There has been no argument with respect to the restriction requirement and therefore the election is now without traverse.

Regarding the argument for claim 2, *Kaaber* discloses using a jet mill to reduce the size of alumina particles to a size of no more than 100 μm (see examples 2 and 5). *Kubota*, a method of modifying graphite particles, discloses using a jet mill to collide particles (column 5, lines 14-16) to reduce particle size to 1 to 100 μm (column 5, lines 10-11) and round the particles to a roundness of not less than 0.86 (column 4, lines 4-5). Thus both of the prior art references disclose using a jet mill to reduce particle size. Further, rounding a particle is an inherent function of the grinding. Further, *Kubota* specifically discloses using the jet mill to round the particles.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 3725

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew G. Katcoff whose telephone number is (571) 270-1415. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dana Ross can be reached on (571) 272-4480. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dana Ross/
Supervisory Patent Examiner, Art Unit 3725

/M. G. K./
Examiner, Art Unit 3725
12/03/09